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ABSTRACT

The purpose of this article is to investigate ways that the grammatical and semantic structures of the Finnish clause limit its possibilities for expressing information structure. The study aims to discover whether there is a correlation between the semantic structure of the sentence and the possibility of using the inverted word order for introducing new referents to the text, or whether there is free variation in the choice between the direct word order and the inverted one. Regularities in Finnish live ice hockey reporting are compared to those obtained by Tomlin (1983) and to results from other text types. Data are presented indicating that in some cases the semantic structure of the sentence rather than the information structure determines the word order. Contains 46 references. (LB)

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INFORMATION STRUCTURE IN FINNISH LIVE ICE HOCKEY REPORTING: AN ANSWER TO TOMLIN (1983)

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The purpose of the article

The purpose of this article is to investigate how the grammatical and semantic structures of the Finnish clause limit its possibilities for expressing information structure. The article aims at discovering whether there is a correlation between the semantic structure of the sentence and the possibility of using the inverted word order for introducing new referents to the text, or whether there is free variation in the choice between the direct word order and the inverted one (cf. Filppula 1982:71). Regularities will be sought first in one text type, Finnish live television ice hockey reporting. The results will then be compared to those obtained by Tomlin (1983) and to results from other text types. The article presents data indicating that in some cases the semantic structure of the sentence rather than the information structure determines the word order.

The theoretical framework of the study is the three-level syntax proposed by Danes (1964) and Halliday (eg. 1985:53). The three levels are grammatical structure (Halliday's interpersonal), semantic structure, and the organization of utterance, which we will provisionally call thematic structure. Another level, information structure, will be added later. Information structure is independent of language. This article deals with the interaction of information structure and thematic structure, of thematic and semantic structure, and the possibilities that the grammatical structure gives for the thematic structure.

On the syntactic level we will concentrate on three grammatical complements of the verb. These may be obligatory or facultative (see Tarvainen 1983:3-7). Complements which the verb requires for its complementation, without which the clause would be ungrammatical, are obligatory. Facultative complements can be left out without making the clause ungrammatical: the clause is incomplete, but the context makes it clear what the missing complement is. The

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elliptical complement contains information assumed by the commentator to be clear from the context, and if he were asked to specify the missing complement, he could not answer 'I don't know' (cf. the dialogue test of Panevova 1978:228). As examples, consider dialogues in (1-3). In these the (i) versions of the second line by A do not form a continuous dialogue.

(1) A: Summanen. Antaa taaksepäin.
'Summanen. Gives backwards'
B: Gives what?
A: (i) *I don't know (ii) The puck

(2) A: ei lähde Lindfors vielä.
'No Lindfors doesn't leave yet'
B: Leave what?
A: (i) *I don't know (ii) The ice

(3) A: Ja näin tulee Kron.
'And so comes Kron'
B: Where to?
A: (i) *I don't know (ii) Into the Finnish zone

Clause (3), for instance, has been considered syntactically equivalent to (4-5), in which the locative complement is present.

(4) Ja ylös nousee Tirkkonen.
'And up goes Tirkkonen'

(5) Sitten lähtee Jalo ylös.
'Then goes Jalo up'

The term 'complement' will be used in this article to refer both to obligatory and facultative complements. Optional complements are discarded.

Every clause in the data has the subject, the most important grammaticalized element of the clause. The meaning of the subject is that its referent is the participant considered by the speaker to be the one who has most control over the event indicated by the verb (cf. Comrie 1981:111, also Lakoff 1977:248-249). Besides the subject, two-place verbs take either an object or an oblique. The referent of the object is the participant most affected by the event, the referent of the oblique is the participant less affected by the event, but which is still important from the point of view of the information structure (cf. Givon 1984:154, 174). In the present corpus the oblique is an adverbial of place,

indicating either a place where the referent of the subject is situated, or towards/from which it is moving, or a person having the possession of the referent of the subject, or to/from whom it is moving (that is, it corresponds to the dative or indirect object in English). Three-place verbs take all three complements. The complements are defined syntactically (cf. eg. Hakulinen & Karlsson 1979:163-166, 172-188).

The syntactic variable investigated is the place of these three complements relative to each other, that is, the word order, and how it is used for the purposes of information structure. We will concentrate on the use of the inverted word order. To begin with, we could define the direct word order as one having the subject as the theme, and inverted word order as one having the subject in a rhematic position.

Halliday (1985:38-39) defines the theme as "the element which serves as the point of departure of the message; it is that with which the clause is concerned". We could follow Halliday (1985:54-56) and define the theme as the first complement of the sentence. This would divide two-place clauses nicely into two parts, the rheme beginning from the finite verb:

(6) kiekon sitten taas korjasi Saarinen.
puck then again took Saarinen
'The puck is then again taken by Saarinen'
theme rheme

(7) Ruotanen pitää kiekkoa.
Ruotanen keeps the puck
theme rheme

(8) Mitä tekee Summanen?
'What does Summanen?'
theme rheme

(9) Järvinen. Etsii Keskistä, joka kuitenkin Stavjanan takana.
'Järvinen. Looking for Keskinen, who is unfortunately behind Stavjana'.
theme theme rheme theme rheme

(10) Sieltä nousee Lumme.
'From there comes Lumme'
theme rheme

Three-place clauses would normally have two complements in the rhematic position:

(11) Ruotanen nappaa häneltä kiekon.
'Ruotanen takes from him the puck'
theme rheme 1 rheme 2

In the following clauses, however, there are two complements before the verb, both of which could be themes, if theme is defined as "what the sentence is about".

(12) Jolta kiekon nappaa tällä kertaa Hascak.
From whom the puck took this time Hascak
'From whom the puck is taken this time by Hascak.
theme 1 theme 2 rheme

(13) Keskinen häntä ahdistaa.
Keskinen him checks
'Keskinen is checking him'
theme 1 theme 2

(14) Suomen alueelta saa sen sitten itselleen, keskialueelle
'From the Finnish zone (he) gets it to himself, into the neutral zone'
theme 1 (elliptical theme 2)
rheme 1 rheme 2

Instead of Halliday's positional definition - the first element of the sentence - we adopt a somewhat wider definition of the theme. The finite verb divides the clause into two parts (cf. Firbas 1987:35). The complements before the verb are themes and the complements after the verb are rhemes.

It is not, however, sufficient to define the inverted word order as one having the subject in the rhematic position. For instance, in (15) the subject occurs after the verb, but there is still another complement after it. Only (16) has the inverted word order, because there the subject is the rheme proper.

(15) Ja tältä nappaa Mikkolainen, nopea luistelija kiekon.
'And from him takes Mikkolainen, a fast skater, the puck'
theme rheme 1 rheme 2

(16) Kiekon hakee päädystä Jalo.
'The puck is fetched from the end of the rink by Jalo'
theme rheme 1 rheme 2

The inverted word order is here defined as one in which the subject follows the verb and acts as the rheme proper, that is, it is the latter if there are two rhemes. In Finnish the inverted word order is used for moving the subject into rhematic position.

Theme and rheme are syntactic categories which can be defined formally. The speaker chooses what he considers to be the theme of the clause. There is, however, another level which is independent of the language, the information structure. The distinction between given and new information belongs on this level. Given information can be defined without reference to the actual language data examined, and it is not what the speaker has chosen to represent as given, as in Halliday (1985:277-278). Below we will present a hierarchy proposed by Tomlin (1983) for what he considers given information in live TV ice hockey reporting. A few additions will be made to the given referents, and the preceding text will be taken into consideration by adapting the concept of referential distance proposed by Givon (1983:13).

The relationship between thematic structure and information structure is that the theme usually codes given information (Halliday 1985:278). The theme can, however, code also new information: information structure consists of an obligatory new element and an optional given (Halliday 1985:275).

On the semantic level we will use semantic roles derived from Fillmore's (1968) case grammar. The roles are as follows (abbreviations used for the roles are given in parentheses):

Agent (AG): A player who volitionally causes a change in the game situation. Usually he hits the puck, attacks another player or moves the puck and/or himself to another place for strategic purposes.

Author (ATH): A player who is doing something that is not significant from the point of view of the game. No special purpose can be discerned and his action has no intended result (cf. Talmy 1976:85-88). This role includes players skating in the rink who do not have the puck and who are not pursuing it. Unlike the puck, they move of their own initiative. They are potential agents.

Beneficiary (BE): A player who has, gets, or loses the puck (dative in Fillmore 1968:24, goal in Fillmore 1971:42).

Neutral (NE): the object of an agent's action, that which is caused to change location, or to which something happens. This role includes the puck being situated somewhere, the moving puck, the puck hit, or a player attacked, and goals scored (objective in Fillmore 1968:25).

Locative (LO): A place in the rink in which the puck or a player can be situated.

The most important features of the semantic roles are volition, which distinguishes the agent from the other cases, causation, which distinguishes the agent and the author from the other cases, and humaness, which distinguishes locatives from the other cases. In addition, beneficiaries and locatives can occur in two kinds of clauses, static and dynamic. In static clauses they denote the place where something is (states), in dynamic clauses they denote the place to which or from which something is moving (goal and source in Fillmore 1971: 41), or the place where somebody is doing something (events and activities, cf. Lee 1973). The plus sign (+) in front of a BE or a LO will be used in this article to indicate that the role is directional (ie., it is either goal or source); a BE or a LO without the plus sign is stative (ie, location 'at'). Table 1 shows the distinguishing features in the semantic cases.

Table 1. The distinguishing features in the semantic cases.

	volition	causation	humaness	directionality
Ag	+	+	+	-
Ath	-	+	+	-
Be	-	-	+	+/-
Ne	-	-	+/-	-
Lo	-	-	-	+/-

According to Tomlin (1983:420), in live TV ice hockey reporting there are two salient features, centers of attention which can be considered given, the puck and the players, of which the puck is the more salient. But the most salient feature in the game is a player with the puck, and a reference to him can be considered to be the most given to the viewer. For example, the clauses in the

following text fragment analysed by Tomlin behave as predicted by the hierarchy:

Quick pass ahead to Errol Thompson, trying to work past Lapointe, it came back to Polonich. Polonich never got the shot away, checked by Lapointe.

The first clause encodes the puck as the subject because the puck is more salient than the player without the puck (*Thompson*). The second clause encodes *Thompson* as its subject, because the player with the puck is more salient than the player without the puck (*Lapointe*). The third clause is like the first. The fourth clause encodes the player with the puck (*Polonich*) as its subject, because he is more salient than the puck. The fifth clause encodes the player with the puck as its subject (*Polonich*), because he is more salient than the player without the puck (*Lapointe*) (Tomlin 1983:421-422). The fifth clause contains the agentive passive, which is a grammatical device that places the most given referent at the beginning of the clause. To sum up, Tomlin's (1983:420; 1986:47) hierarchy of thematic information for the choice of the English subjects is: player with puck > puck > player without puck > other.

Tomlin (1983:412) concludes that the subject in English encodes primarily given information, secondarily the semantic role of agent. In a later publication, Tomlin (1986:4-5) discusses two universal functional principles that determine word order. These are the Theme First Principle (hence Given First Principle) and the Animated First Principle. The latter principle consists of two components: (a) the referent of the NP is animate (hence Animated First Principle) and (b) the semantic role of the NP is agent, animate volitional instigator of the event (hence Agent First Principle) (Tomlin 1986:103-105). The former principle is the more important for English in general (Tomlin 1986:50).

As stated above, Tomlin (1983:422) refers to the agentive passive, and in fact most linguists see the primary motivation for the use of the agentive passive as maintaining the word order that reflects information structure (see eg. Siewierska 1984:218-230. For the opposite view, that information structure cannot explain the use of the agentive passive, see Beedham 1982:34-43). Finnish, being a free word order language, differs from English in its grammatical structure in not requiring the subject to occur initially. The subject can also occur postverbally in the inverted word order, corresponding to the English agentive passive

semantic (and grammatical) roles

=

=

=

theme (first position: 'what the sentence is about')

=

=

=

information structure: given/new information

Figure 1. Summary of the theoretical framework

(see examples 6, 12, 16). Thus Tomlin's rule could be given for Finnish as follows: the theme encodes primarily given information, secondarily agents.

The purpose of this article is to show that Tomlin's hierarchy does not hold for the Finnish data. Instead, the Agent First - sometimes even the Animated First Principle - often overrules the Given First Principle. That is, in Finnish there are two principles affecting the choice of the theme (see Figure 1). The power of these principles varies in different text types.

Tomlin's hierarchy accounts for about 98% of his data: exceptions are few and they involve a longer delay between the observation of the event by the commentator and its reporting (1983:423). As stated earlier, the Finnish grammatical device corresponding to the English agentive passive is generally considered to be the use of the inverted word order (cf. eg. Ihalainen 1980). This is a natural assumption since the word order in Finnish is relatively free, and in such languages there is in neutral cases a tendency to use the word order for the purposes of information structure. These assumptions, however, have not been based on empirical studies. As an example, let us take a reference to Tomlin (1983) made by Shore (1986:78). She uses the sentence *Laroche is checked by Lapointe* as an example of the use of the English agentive passive for expressing information structure. She gives the use of the inverted word order as the corresponding Finnish device and translates the example as *Larochen estää Lapointe*. This is a possible clause in Finnish, of course, but as will become clear

below, it is not very likely to occur in the actual live reporting. The only empirically based comparative study that I am aware of is Rautala (1978), whose results show that the use of the inverted word order as an equivalent of the English agentive passive is not as self-evident as has been assumed.

However, there are cases in my corpus in which the inverted word order is used as predicted by Tomlin's hierarchy. In the following examples the inverted word order is used for fronting the more salient puck or the player with the puck and postponing the less salient player without the puck[1].

(17) Kucera. Jonka hoiti Lumme, kiekon sitten taas korjasi Saarinen.
'Kucera. Who is taken care of by Lumme. The puck is then again taken by Saarinen.'

(18) Ruuttu. Jolta kiekon nappaa tällä kertaa Hascak.
'Ruuttu. From whom the puck is taken this time by Hascak.'

(19) Kiekon hakee päädystä Jalo. Ja taistelee sen itselleen. Risto Jalolla, ollut hyvä päivä tänään.
'The puck is fetched from the end by Jalo. And he fights to keep it. Risto Jalo has had a good day today.'

However, Tomlin's hierarchy predicts the word order of the Finnish transitive sentences only in 26.0% of the cases. In the majority of the cases the theme position is taken by a reference to a player without the puck and not by a reference to the puck. Clauses (20-22) are examples of this. Note especially (22), in which both the player with the puck and the puck are rhematic, while the player without the puck is thematic.

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[1] The inverted word order has also another function. It can express contrast, as in the following:

> Ja tuota tilannetta ei torjunut Tammi, siihen tuli puolustaja kiekon eteen, joka sitten joutuu ontumaan vaihtoon.
> 'And it was not Tammi (the goalie) who stopped the shot, but there came a defenseman in front of the puck, and he is limping to the players' benches'

Cases like this were few in the data and they were discarded.

(20) Vuori taistelee kiekon omalle hyökkäysalueelleen
'Vuori fights the puck to his own attacking zone'

(21) Ja tältä nappaa Mikkolainen, nopea luistelija kiekon.
'And from him takes Mikkolainen, a fast skater, the puck'

(22) Ruotanen nappaa häneltä kiekon.
'Ruotanen takes from him the puck'

Besides, Tomlin's hierarchy says nothing about intransitive clauses, ie., players in relation to locations (clauses like 2-5).

The text type

Live TV ice hockey reporting was chosen as one of the text types (for the others, see Hiirikoski 1991), because it represents theme choices in unplanned speech (cf. Ochs 1979). The theme in reporting can be considered as the first thing that comes to the commentator's mind, it is the point of departure for the message (cf. Allerton & Cruttenden 1978:176). For the speaker, it is both the starting point for the organization of the clause and the initial attentional focus; for the listener, it is the first element to attract attention (MacWhinney 1977:152-155). Structures used in reporting are also simple (cf. Tomlin 1983:419), and the results obtained will be compared to those obtained from the other text types.

The data consists of the TV transmission by the Finnish broadcasting company of the match between Finland and Czechoslovakia on April 17, 1990. The commentator was Antero Karapalo. There was another commentator, Juhani Tamminen. He did not, however, comment on the events of the game as they were happening, but was consulted by Antero Karapalo as an expert. Because Tamminen commented on what had already happened, he had more time to think about what he wanted to say, and his speech was less unplanned than that of the main commentator, Karapalo (cf. Tomlin 1985:98). Because of this Tamminen's part of the reporting was excluded from the data.

Attention was paid only to the order of complements; intonation was not considered. Only pauses have been marked. The full stop means a clear pause (one second or longer) preceded by falling intonation. The comma marks a shorter pause without clear falling intonation.

Occurrence of different clause types in reporting: how the events of the game are described

Tomlin's hierarchy deals only with transitive clauses. In his examples he has intransitive clauses, for example *Now Shutt coming out, into the Detroit zone* (1983:425), but these are not dealt with systematically. Tomlin states that the hierarchy accounts for the subjects of intransitive clauses by default: there is only one possible NP choice for the subject, because locative phrases cannot be made subjects (Tomlin 1983:431). Locative phrases can, however, be made themes in Finnish, so they have to be taken into account as well.

The clauses in the data have been divided into two groups, transitive and intransitive. Transitive clauses express a relationship between two entities in which the first (the subject) manipulates the other (the object). Intransitive clauses do not involve manipulation of an object. They express a relationship between an entity (the subject) and a location (the oblique). The referent of the subject either is in some place or moves to a place. If the surface structure has a semantically obligatory complement missing (ie., a facultative actant, see Tarvainen 1983:5), it has been added to the clause (unlike Tomlin 1983:431). Thus in the following clause pairs, for example, both clauses are considered to belong to the same group, even though the (b) versions miss one of the complements.

(23a) Stavjana, jättää kiekon Hrdinalle.
'Stavjana, leaves the puck to Hrdina'

(23b) Saarinen, jättää Lumpeelle.
'Saarinen, leaves to Lumme'

(24a) Keskinen häntä ahdistaa.
'Keskinen is checking him'
(24b) Keskinen ahdistaa.
'Keskinen is checking'

(25a) hyvin tulee Rautio esiin,
'well comes Rautio forward'
(25b) Ja näin tulee Kron.
'And so comes Kron'

Some verbs have been regarded as incorporating the object (cf. Cook's 1979:82-covert case roles); example (26), for instance, incorporates the object 'the game', and is thus considered transitive.

(26) Ja hyvin pelaa Jalo.
'and well plays Jalo'

Of course, there are cases where it is diffiult to tell whether a given elliptical clause is transitive or locative. Clause (26), for example, could also be considered an elliptical locative clause and thus intransitive ('In that situation Jalo plays well'). Elliptical clauses like these are, however, rare.

The classification is based on surface case forms. Use of an oblique case marking has been considered to code less affected entities than use of the object case markings (cf. Hopper & Thompson 1980). Thus all clauses having a locative case form (other than the subject or object case, ie., oblique) in their second complement have been regarded as locative (intransitive), even though these clauses may in fact express semantically transitive relations. Consider, for example, clause (27). According to Tarvainen's (1977:27-29, 1983:33) proform test the complement *kiekkoon* 'to the puck' is the object and not an adverbial of place despite its locative case form, because it takes the illative form *siihen* of the demonstrative pronoun *se* 'it' (see Karlsson 1983: 121-122) as its proform and not the adverb *sinne* 'there'.

(27) Keskinen. *Ei pääse kiekkoon.*
Keskinen. Not get to the puck
'Keskinen. Does not reach the puck'

Verb groups consisting of a finite verb followed by a verb in the 3rd infinitive illative form, exemplified by (28-29), have been classified as combinations of a verb and an adverbial of place, and thus intransitive, like the structurally similar *pääsee kaupunkiin* 'gets to town', and not as a combination of an auxiliary and a transitive main verb. (See Karlsson 1983:162-163.)

(28) Ruotanen Reichelia vastaan, tämä *pääsee yrittämään* syöttöä,
'Ruotanen to block Reichel, who gets to try a pass'

(29) *Auttamaan tulee* joukkueemme kapteeni Ruotanen.
'To help comes the captain of our team, Ruotanen'

The combinations of the copula *olla* 'to be' followed by a verb in the 3rd infinitive inessive form, exemplified by (30-32), have been classified in the same way (see Karlsson 1983:161). This construction corresponds in many cases to the English progressive structure *to be doing* (Markkanen 1979:65). The inessive case affix *-ssa/ä* corresponds to the English preposition *in*.

(30) Jota taklaamassa Keskinen.
'Who is being tackled by Keskinen'

(31) Hän oli hieman liian kärkkäästi käymässä kiekkoon,
'He was reaching for the puck a little bit too eagerly'

(32) ketään ei ole häiritsemässä
'There is nobody checking him'

As stated above, these have been classified as intransitive locatives on the basis of their form. Markkanen (1979:65-67) has stated that this construction also has a connotation of locality as a part of its meaning, but this interpretation is rejected by Heinämäki (1981). Thus their form is intransitive, although they may be semantically transitive. Here they have been assumed to behave more according to their form than their meaning.

Besides the two main classes, the intransitive and the transitive, there are three other classes. Two of these have been grouped under class C in Table 2. One of these is the class of equatives (Halliday 1967:67), containing the copula *olla* 'to be', as in *Ja mies joka kaatuu yhdessä hänen kanssaan on Pekka Laksola, Tappara ja Tampere* 'And the man who falls with him is Pekka Laksola, from Tappara, Tampere'. The other is the class of nominalizations. This class has two subgroups. In the first group a clause expressing what a player is doing is nominalized into a subject of another clause; for example, *Simo Saarisen laukaus nousee liiaksi* 'Simo Saarinen's shot rises too high' consists of two propositions: 'Saarinen shoots' and 'The shot rises too high'. In the second group there is no finite verb: *Lumpeen laukaus* 'Lumme's shot', *Hyvä syöttö Summaselle* 'A good pass to Summanen'. Because we are here concerned only with the three complements of the finite verb, nominalizations have not been further analyzed - even though they of course have a thematic structure of their own, eg. *Tämän syöttö* 'His pass' vs. *Harhasyöttö häneltäkin* 'A stray pass from him too' - but considered only in their role as complements of finite clauses; within the thematic structure of a clause, they operate as one unit (cf. Firbas 1975:320-321).

Besides the classes of equatives and nominalizations, there are elliptical clauses that consist only of mentioning the name of the player who gets the puck. Elliptical clauses like these are exemplified by the underlined structures in text fragment (33).

(33) *Hasek*. Tuolla, kaukolaukauksella Suomi, haki ainoastaan tilaisuutta vaihtoon. Sitten, *Kucera*. *Arbelius*. Ja ylös on noussut Saarinen. *Ruuttu*, sitten Järvenpää hyvin taakse. Sieltä nousee Lumme. Ja tuo Sonjan laukaus menee harmittavasti Tshekkoslovakian maalin oni. Mutta suomalaispyöritys jatkuu. *Arbelius*. Ja Christian Ruuttu on vielä ohjaamassa. Erittäin hyvä vaihto Suomelta.

On formal grounds these could be regarded as elliptical forms of transitive clauses. *Hasek* in (33), for example, could be short for *Hasek saa kiekon* 'Hasek gets the puck'. In this article these structures have, however, been analysed as intransitive locatives that express the location of the puck at a given moment. Because this location is animate, they have been considered beneficiaries (class Bi6 in Table 2). In fact, this type is the most frequent in the corpus and we will return to it later.

The frequencies of the clause types occurring in the corpus have been given in Table 2. We can see that transitive clauses (class A) that Tomlin deals with are a minority in the corpus: their frequency is 29.4%, while that of the intransitive clauses (class B) is 61.5%.

The two main classes A and B have been divided into sub-groups according to the semantic roles of the complements. The order in which the roles occur in the table and in the following examples is the neutral order Subject - Verb - Object - Adverbial. Transitive clauses have been divided according to the number of complements. The three-place clauses have the case frame AG (NE +BE)[2] (*Stavjana, jättää kiekon Hrdinalle* 'Stavjana leaves the puck to Hrdina') or AG (NE +LO) (*Hrdina, työ kiekon päätyyn*. 'Hrdina shoots the puck to the end'). The two-place clauses have the following case frames: AG (NE) (*Jagr ottaa kiekon* 'Jagr takes the puck') and (+BE NE) (*Jyrki Lumme saa tuosta, syöttöpisteen* 'Jyrki Lumme scores a point with that', *tällä kerralla Pauke Järvinen myös menettää kiekon* 'And this time Pauke Järvinen also loses the puck', *tämä löytää Summasen* 'Who finds Summanen'). Intransitive clauses have the following frames: (NE +BE)

[2] Events like this were few in the data and they were discarded.

Table 2. Different clause types in the corpus

	No.	%
(A) Transitive	237	29.4
(1) ag (ne +be/lo)	70	8.7
(2) ag (ne)	130	16.1
(3) (+be ne)	37	4.6
(B) Intransitive	496	61.5
(i) Benefactive	235	29.1
(4) (ne +be)	16	2.0
(5) (ne be)	26	3.2
(6) (be)	193	23.9
(ii) Locative	33	4.1
(7) (ne +lo)	30	3.7
(8) (ne lo)	3	0.4
(iii) Agentive locative	90	11.2
(9) ag* (ne* +lo)	72	8.9
(10) ag* (ne* lo)	18	2.2
(iv) Author locative	138	17.1
(11) ath* (ne* +lo)	35	4.3
(12) ath* (ne* lo)	103	12.8
(C) Others	74	9.2
(13) Equative	9	1.1
(14) Nominalizations	65	8.1
(14a) Finite	29	3.6
(14b) Non-finite	36	4.5
Total	807	100.0

(*Kiekko ei mene aivan Ruutulle saakka* 'The puck does not quite go as far as Ruuttu'), (NE BE) (*Näin kiekko on Laksolalla* 'So Laksola has the puck'), (BE) (*Sitten, Järvenpää* 'Then Järvenpää'), (NE +LO) (*Ja sinne se menee Tammen taakse* 'And there it goes, behind Tammi), (NE LO) (*vaikka kiekko pysyy, ei pysy enää, Tshekkoslovakian puolustusalueella* 'even though the puck stays, does not stay any more, in Czechoslovakia's defence zone'), AG* (NE* +LO)[3] (*Gudas, Tshekkoslovakian puolustaja, kiekon perään* 'Gudas, a Czechoslovakian defenseman, (goes) after the puck'), AG* (NE* LO) (*samaan aikaan kun Vilander, pyörittää siellä Hasekin maalin takana* 'At the same that Vilander is wheeling (the puck) there behind Hasek's goal'), ATH* (NE* +LO) (*Summanen törmää päin Hascakia* 'Summanen bumps into Hascak') and ATH* (NE* LO) (*Suomalaisia kuitenkin siniviivan tuolla puolen* 'There are, however, Finns on the other side of the blue line').

Tomlin deals only with agentive clauses. In the present corpus clauses containing the semantic role of agent constitute 35.9% of the cases. The clause type most frequently used in the corpus (23.9%) is class (Bi6), the elliptical clause naming only the player who has the puck, ie, the location of the puck. Of the classes containing a finite verb the most frequent (16.1%) is class A2, agentive transitives. The second (12.8%) is the existential type Biv12, expressing the place of a player. The third (8.9%) is class Biii9, expressing a player moving to a place, and the fourth (8.7%) is class A1, expressing a player moving the puck to a location.

The occurrence of the inverted word order

The frequency of the inverted word order is expressed by a figure obtained by dividing the number of occurrences of clauses with the inverted word order by the occurrences of clauses with the direct word order. The figure thus expresses the number of clauses with the inverted word order per one clause with direct word order. The smaller the figure, the less frequently the inverted word order occurs with that clause class and the less frequently the clause class uses inverted word order for introducing new referents. Table 3 shows the proportion of the inverted word order in classes where the inverted word order

[3] The asterisk (*) indicates that the two roles are coreferential.

Table 3. The proportion of the inverted word order in some of the clause types

(A1)	Three-place transitive	0.1
(A2-3)	Two-place transitive	0.2
(C14a)	Finite nominalizations	0.4
(Biii)	Agentive locatives	0.7
(Biv)	Author locatives	1.0

can be used. The classes have been re-ordered according to the likelihood of the occurrence of the inverted word order, with the less likely class to take the inverted word order at the top.

Table 3 shows that the use of the inverted word order varies according to the clause class. This could be due to two factors: either the clause types do not have new referents and they do not need to employ the inverted word order, or they do not employ the inverted word order even though they contain new referents. To investigate this we will concentrate only on clauses introducing new referents into the text. First, however, we must re-examine the concepts of 'new' and 'given' information.

What is given in ice hockey reporting?

Tomlin (1983:420) establishes his hierarchy independently of any actual text. The most salient feature of the extralinguistic activity of viewing hockey on TV is the puck, which the television camera and the viewer will follow (cf. Tomlin 1983:420). The commentator expects the viewer to see what the TV director has chosen for him to see.

Thus the puck is given for Tomlin. The clauses whose subject refers to the puck are included in class (Bii). The other complement in these clauses is an adverbial of place. In this class the puck always occurs as the theme (the ratio for inverted word order is 0.0).

There are, however, other expressions, such as *laukaus* 'shot', *syöttö* 'pass', that refer to an event involving the puck and its movement, as for example in *Nyt tulee paha laukaus* 'And now comes a bad shot', *Syöttö menee kuitenkin vastustajalle* 'The pass goes, however, to the opposing team', *Ja syöttö jalolle tulee*

hieman liiaksi taakse 'And the pass to Järvenpää goes too much back', *Järvenpään laukaus ei aivan onnistunut* 'Järvenpää's shot did not quite succeed', *Sieltä tulee puolustajan laukaus* 'Here comes a defenceman's shot'. Tomlin does not explicitly deal with expressions like these, but we can conclude from his examples (Tomlin 1983:415, 421-422) that he has treated these in the same way as references to the puck. This seems reasonable, because if the viewer follows the movement of the puck he is bound to notice also the passes and shots. Expressions like these have been considered nominalizations and classified under class (C14a). Again, the other complement is an adverbial of place. In this class, however, the subject is rhematic more often than with class (Bii): the ratio is 0.4.

Class (Bii) includes also clauses where the subject refers to the face-off. These too occur most often as themes, but sometimes also as rhemes (the ratio is 0.2).

We may conclude that the puck and the face-off occur as themes more often than locations, because they are given. We could, however, also regard various locations in the ice stadium as given, because the viewer can see them. These could include the rink itself, the stand, the ice, the goal, the red line, etc. The viewer can see these locations himself and does not really need to be told where the puck is. The puck is, however, more given than locations, because there is always only one puck, but its location can vary. On the other hand, there are more players than one. The viewer cannot usually identify players and thus the job of the commentator is really to name players for the viewer.

New referents

What is new and unpredictable in viewing ice hockey are the names of the players, because the viewer cannot identify players. There are, however, cases where the player is more given than the puck, namely when the player has been mentioned in preceding clauses. Then the reference to the player is usually the theme (Tomlin 1983 does not deal with cases like this, although Tomlin 1986: 46 mentions this possibility). In (34-36), for instance, the player is first introduced to the scene in rhematic position, after which reference to him is thematic.

(34) Ja erinomaisesti heittäytyy eteen Pauli Järvinen. Hyvä Pauke. Kaivaa vielä kiekon tuolta laidasta ja näin ei Tshekkoslovakia taida saada ylivoimamaalia.
'And Pauli Järvinen throws himself excellently in front of the puck. Well done Pauke! Then he digs the puck up from the board and so Czechoslovakia may not be able to score any more'

(35) mitä tekee nopea Raimo Summanen? Jalo auttaa takaa, Summanen pääsee ampumaan mutta Scerban saa mailan väliin.
'What is the fast Raimo Summanen doing? Jalo is helping him from behind, Summanen gets a shot but Scerban puts his stick in between'

(36) Ruuttu. Ja nyt yritetään pelata tilanne todella loppuun saakka. Ruuttu tämän ruuhkan panee alulle.
'Ruuttu. And now they try to play this situation to the end. Ruuttu starts this situation.'

Because we want to concentrate on clauses that introduce new referents, we exclude from the data all clauses in which a reference was made to a player who had been mentioned in any of the five preceding clauses. It is assumed that after five clauses in which a referent has not been mentioned again, it will have disappeared from the short term memory of the viewer, because scenes change so quickly in ice hockey (cf. Givon 1983:13-14, Jaggar 1983:372). After an absence of five clauses the name of a player is considered new again. The puck, locations in the ice stadium, and events shown on the TV-screen have been considered given.

Persons other than players

More "individual" persons, such as the goalkeepers, the referee, the coaches, are easier for the viewer to identify. This should have syntactic effects, and in fact Tomlin (1983:426) states that when the goalkeeper stops the puck, the goalkeeper - and not the puck as predicted by the hierarchy - occurs as the theme in about 50% of the clauses reporting the event. Thus the goalkeepers are more salient than the other players.

Table 4 shows how often subjects referring to referentially new players, goalkeepers, coaches, referees and teams occur as rhemes in the corpus. A high ratio means that the subject is more often rhematic, a low ratio that it is thematic. It is to be noted that with classes (A) and (Biii-iv) the subject referring to a person

occurs as the theme when the unmarked direct word order is used, but in classes (Bi4-5) the inverted word order has to be employed to place the adverbial referring to a person in the theme position and the subject referring to the puck in the rheme position (the inverted *Tshekkoslovakialle menee kiekko* 'To Czechoslovakia goes the puck' as opposed to the direct *Kiekko ei mene aivan Ruutulle saakka* 'The puck does not go as far as Ruuttu'). From the point of view of information structure all these structures are marked, because they start with new information.

As stated in connection with Table 3, the possibilities of using word order for expressing information structure depend on the clause type, and for this reason in Table 4 we have presented references to persons in three relevant clause types. These are the sub-groups of two main clause classes transitive and intransitive that refer to a person. The intransitive class has been divided into two: in beneficiary intransitives an adverbial refers to a person, in agent/author intransitives the subject refers to a person.

It can be seen that references to the teams are almost always thematic, as are references to the coaches and the referee. References to the goalkeepers are more often thematic than references to players, except for the class of transitives, where the ratios are the same. Table 4 shows that of the various persons referred to in ice hockey reporting, references to players are most often placed in the rheme position, that is, they are most often new in the sense of Tomlin (1983).

Table 4. Occurrence of subjects referring to referentially new players, goalkeepers, coaches, referees and teams as rhemes.

	Player	Goalie	Team	Referee	Coach
Transitives (Class A)	0.4	0.4	0.0	0.3	0.0
Be intransitives (Classes Bi4-5)	5.0	1.0	0.0	-	-
Ag/ath intransitives (Classes Biii-iv)	1.1	0.5	0.1	-	0.0

Use of the inverted word order for introducing new referents

Table 5 shows the occurrence of the inverted word order in clause classes having referentially new players as their subjects.

It can be seen that the inverted word order is used less frequently for introducing a new referent in transitive clauses than in intransitive clauses. The inverted word order is still rarer with three-place clauses. Furthermore, transitive clauses with +BE subjects take the inverted word order more easily than clauses with AG subjects. The difference (0.2 vs. 0.5) is corroborated by results from other text types (see Table 6 below), in which the ratios are 0.3 vs. 1.0 (Hiirikoski forthcoming; for preliminary results, see Hiirikoski 1989 and 1990). The same tendency to avoid placing agent subjects postverbally is seen in intransitives: clauses containing agent subjects (class Biii) take the inverted word order less frequently than clauses containing author subjects (class Biv): the ratios are 0.8 vs. 1.3.

Table 5. Frequency of the inverted word order in clauses having referentially new players as their subjects.

(a) Transitive	0.4
(1) ag (ne +be/lo)	0.3
(2) ag (ne)	0.4
(3) (+be ne)	0.5
(biii) Agentive locative	0.8
(9) ag* (ne* +lo)	1.0
(10) ag* (ne* lo)	0.5
(biv) Author locative	1.3
(11) ath* (ne* +lo)	0.9
(12) ath* (ne* lo)	1.4

The fact that the inverted word order is more frequent with intransitive verbs corroborates the view presented by Vähämäki (1987:176-178) that one of the most crucial distinctions between clause types in Finnish is the distinction between existential and non-existential clauses. In existential clauses the subject occurs postverbally and they are a device used for introducing new referents into the text. In Finnish the inverted word order seems to be used the more easily the more the clause resembles a prototypical existential clause formally. Thus intransitives invert more easily than transitives. But also the semantic structure of the clause, its case frame, affects the likelihood for using the inverted word order. Existential clauses are non-agentive (Hakulinen & Karlsson 1979:105), whereas agentive action is normally expressed by transitive clauses. It seems that in Finnish the prototypical transitive event (as described by Lakoff 1977:244 and Hopper & Thompson 1980) is expressed typically by a transitive clause with the direct word order, ie. even referentially new agent subjects occur preverbally and referentially given objects postverbally, contrary to the expectations of information structure. The order of complements in the linguistic representation reflects iconically the order of events in cognitive experience. This can be compared to DeLancey's (1981:632-633) concept of attention flow: in a transitive clause the agent, the actual starting point of the event, is a natural theme, the starting point of the clause.

The further away we move from the prototypical transitive event towards less transitive intransitive events, the more easily the inverted word order can be employed. This is reflected by the difference between the ratios of agent transitives and beneficiary transitives in Table 5: the agent transitives are nearer to the transitive act, and therefore invert less easily.

In Hiirikoski (forthcoming) clauses from various text types have been divided into different classes according to the semantic roles they have as their complements. The ratios of the inverted word order have been counted in each class and compared to each other, so that one of the roles varies while the others have been kept constant to see if this causes changes in the ratio for the inverted word order. The roles have been placed on a hierarchy according to how powerfully their occurrence in a clause prevents the use of the inverted word order (the smaller the ratio, the more powerful the role).

Table 6. Comparisons of the ratios of the inverted word order used for introducing new referents in some clause classes.

A. Transitives

Role of the OBJECT	SUBJECT	Example verb	Ratio
(i) Role of the object remains the same:			
(ne v)	ag	kill	0.2
(ne v +be*)	ag*	take	0.4
(ne v +be)		get	0.5
(ne v)	fo	cause	1.3
(ne v be)		own	2.0
(ii) Role of the subject remains the same:			
(ne v)	ag	kill	0.2
(re v)	ag	make	1.2
(lo v ne*)	ag*	follow	1.8

B. Intransitives

Role of the OBLIQUE	SUBJECT	Example verb	Ratio
(iii) Role of the oblique remains the same:			
(+lo v ne*)	ag*	go	1.1
(+lo v ne)		pass	1.3
(lo v ne*)	ag*	do	1.9
(lo v ne)		be	2.4
(iv) Role of the subject remains the same:			
(+lo v ne*)	ag*	go	1.1
(lo v ne*)	ag*	do	1.9
(+lo v ne)		pass	1.3
(lo v ne)		be	2.4

Some of the preliminary results can be seen in Table 6. In the upper part of the table the effect of the subject role is investigated; the lower part investigates the effect of the object role changes. The roles have been discussed above, with the exception of the role of result (RE). This refers to an entity coming into existence as a result of the event described by the verb (the effected object).

We can see that the transitive clause classes form hierarchies according to their transitivity features: the more transitive clauses rank high on the hierarchies. The more volitional the subject role is, the harder it is to place it postverbally, and the more affected the object role is, the harder it is to place preverbally. If the clause contains a role having a locative or beneficiary feature, they invert more easily. The same applies to intransitive clauses. The more agentive classes invert less easily than non-agentive classes; the clauses having obliques with a directional role invert less easily than classes with stative obliques. Also this latter result connects easily with the situation in transitive clauses: directional locatives can be regarded as being more affected than stative locatives in that the subject referent's entering the place causes a change in it and they are thus more transitive.

There is, however, still the possibility that the mere animateness of the referent, and not its having the semantic role of agent or the grammatical role of subject, is the reason for its occurring as the theme. Next we will look at cases in which reference to a player is made with an adverbial and not with the subject.

The movement of the puck in beneficiary intransitives

Classes (Bi4-5) express the movement of the puck to a player. As stated in connection with Table 4, these classes behave most in accordance with the expectations of information structure: the ratio for new as rheme was 5.0. It is with these classes that the word order can be used for the purposes of information structure, so that the more given referent in the clause will take the theme position. As examples, consider these constructions in (37-38). There the player just mentioned occurs as the theme.

(37) Toisen maalinhan teki Järvinen, hän on myös jäällä. Ja Järviselle kiekko.
'The second goal was scored by Järvinen, who is also on the ice. And to Järvinen goes the puck.'

(38) Gudas. Ja tälle kiekko. Taas uudemman kerran.
'Gudas. And to him the puck. And then again.'

In examples (39-41), on the other hand, the puck is the theme and the referentially new players are rhemes.

(39) Saarisella kiekko, ja nyt se on sitten Helmisellä.
'Saarinen has the puck, and now it is with Helminen'

(40) Christian Ruuttu, joka nyt häviää aloituksen tuossa keskialueella. Näin kiekko on Laksolalla.
'Christian Ruuttu, who loses the face-off in the middle zone. And the puck is with Laksola.'

(41) Voimakas pelaaja Dolana. Summanen, mutta kiekko on Stavjanalla, joka lähettää oman hyökkäyksen vauhtiin.
'The strong player Dolana. Summanen, but the puck is with Stavjana, who starts an attack'

The word order in these classes in determined mostly by the Given First Principle and not by the Animated First Principle.

A new hierarchy

For Finnish the following hierarchy for the choice of the theme is proposed:

<The affecting principle>	
Agent first	Given information first
agent	
beneficiary subject	
author	
beneficiary adverbial	
neutral	
locative	

If the clause has a semantic role ranking high on the hierarchy, the Given First Principle is overruled. Instead, the constituent carrying the powerful role takes the theme position even when new. The lower we go on the hierarchy, the more powerful the Given First Principle becomes. The cut-off point between the two principles (ie. which is the more powerful) seems to vary according to the text

type (for a comparison of the occurrence of the inverted word order in various genres see Hiirikoski 1991). In live ice hockey reporting it seems to be rather low: only in clauses consisting of the two lowest cases - neutral and locative - the word order is practically always determined by the Given First Principle. Even when the reference to a player is made with an adverbial carrying the role of +BE or BE, there are traces of the more general Animated First Principle, although the ruling principle with these classes is still more often the Given First Principle. There is still another principle to be considered, under which the two could be subsumed, the Urgent First Principle.

Characteristics of live ice hockey reporting

It was characteristic of the present corpus that the inverted word order was not used for introducing new referents to the text. New referents were introduced in the theme position in 72.6% of the cases. Of all the themes in the corpus 51.7% were new. One explanation for this could be that in live reporting the commentator says first what is new in the situation, what has changed, and only later the given things, if he has time to add them. And the viewer can normally figure out the rest even if the commentator does not have time to fill in the given information. This could be an instance of Givon's (1983:20) principle "Attend first to the most urgent task at hand".

Topicalizations of new information were frequent in the corpus in all clause classes, but especially frequent they were in clauses giving information about the time. Of the six clauses dealing with penalty time only two have the word order in accordance with information structure (*Esa Keskisen rangaistusaikaa jäljellä 1.27* 'There is 1 minute 27 seconds left of Esa Keskinen's penalty time'), the other four start with the new information: *Puoli minuuttia Heikki Leimeen rangaistusaikaa jäljellä* 'Half a minute left of Heikki Leime's penalty time'. With clauses referring to the playing time, which is more given than the penalty time, the difference is even more pronounced: of the 22 clauses only one has a word order in accordance with information structure (*Peliaikaa jäljellä siis 38 sekuntia* 'There is 38 seconds left of the playing time'), the others start with new information: *kun tasan 5 minuuttia on peliaikaa jäljellä* 'when exactly 5 minutes is left of the playing time'. There is even one clause where the reference to the

playing time occurs as the rheme: *Näin päättyy otteluaika* 'So ends the playing time'.

Topicalization of new referents was frequent with all clause types, as evidenced by examples (42-49).

(42) Koukkaamisesta tuo Pauli Järvisen, rangaistus annetaan, korkea maila siinä oli yhtä hyvin.
'For hooking is that Pauli Järvinen's penalty given, high stick was it as well'

(43) Pavel Wohl, on Tshekkoslovakian valmentaja ja hänestä on tulossa sinulle kollega tänne Sveitsin pääsarjaan ensi kaudeksi.
'Pavel Wohl, is Czechoslovakia's coach and he is going to be your colleague here in Switzerland next season'

(44) Sisupussipalkinnon, Saarinen olisi ansainnut jo tässä ensimmäisessä erässä.
'A special prize for trying hard Saarinen should have been given even in this first round'

(45) Kucera hän oli eikä Jelinek, tällä kerralla, kuitenkin, numero 14, ei 24.
'Kucera he was in fact and not Jelinek, this time, number 14, not 24'

(46) Calgary Flames on todella siis Hrdinan nykyinen seura.
'Calgary Flames is really Hrdina's present team'

(47) Tulosta, ei tule tuostakaan Järvisen laukauksesta.
'Effect, does not that shot have'

(48) ensimmäiset MM-kisat siis hänellä jo menossa, Tervellä 13. maaottelu.
'His first world championships has he going, Terve has his 13th international match'

(49) Helminen pääsee tuikkaamaan Vilanderille. Mutta ei, ei löydä sitten reikää Vilander tuolle laukaukselleen, niin että kiekko menisi Hasekin taakse.
'Helminen manages to shoot to Vilander. But no, no hole does Vilander find for that shot, so that the puck would go behind Hasek.

In the last example the inverted word order is in fact used for thematizing the new referent 'hole' while rhematizing the player mentioned in the previous clause.

Topicalizations of new information were frequent even with the class of beneficiary intransitives, which was the class that most allowed the word order to reflect information structure (see Table 4 above):

(50) Lumme hoitaa ammattimiehen varmuudella sitten tuolla oman maalin takana tilanteen. Raipe Helmisellä kiekko, hyvä syöttö, Järvenpäälle.
'Lumme takes care of the situation professionally there behind our goal. Raipe Helminen has the puck, a good pass, to Järvenpää.'

(51) 10 sekuntia on Suomella tuota ylivoimapeliä aikaa jäljellä Ruutun kumartuessa aloitukseen Hrdinaa vastaan.
'10 seconds has Finland time for power play when Ruuttu is bending down to the face-off against Hrdina.

In cases like *Tirkkosella kiekko* 'With Tirkkonen the puck' the reference to the puck seems to be added like an afterthought. Structures like these always lack the copula in the corpus (see also examples 37-38 and compare them to 39-41 with the direct word order) and thus they resemble the most frequent clause class in the corpus, class (Bi6), which only names the player who has or gets the puck. Class (Bi6) expresses only the new information, which is also true of class (C14b) in the sense that they lack a finite verb and thus only consist of the theme. Class (Bi6) was considered to indicate the location of the puck. Sometimes these themes are followed by structures whose subjects they could be. If there is not a clear pause after the theme, it is sometimes difficult to decide whether the commentator has intended to produce a one-place locative clause with a new referent as the theme followed by another clause in which the theme of the previous clause acts as the elliptical subject, or one clause with a new theme. The latter interpretation is more natural when the following verb expresses what the player does to get the puck, as in examples (52-54).

(52) Hasek. Katkaisee vaikka kiekko pysyy, ei pysy enää, Tshekkoslovakian puolustusalueella.
'Hasek. Stops even if the puck stays, doesn't stay any longer, in Czechoslovakia's defence zone'

(53) Järvinen, taistelee kiekon Suomelle hyvin.
'Järvinen, fights the puck to Finland well'

(54) Lumme. Ottaa kiekon.
'Lumme. Takes the puck.'

If the naming of the player in itself expresses that he gets the puck, as has been assumed in this article, then the following structure only states this fact more specifically. Cases like these have been analysed as consisting of one clause. The pause after the theme seems to be typical of the present commentator: it may be his way of indicating the theme, or what he considers the most important information.

The above three are, however, the only examples of such structures. In all the others (33 cases) the following finite structure expresses what the player did with the puck after getting it:

(55) Hrdina, lyö kiekon päätyyn,
'Hrdina, shoots the puck to the end of the rink'

(56) Stavjana, jättää kiekon Hrdinalle.
'Stavjana, leaves the puck to Hrdina'

Cases like these have been analysed as consisting of two clauses; Thus (56), for example, consists of two propositions: 'The puck goes to Stavjana. He leaves it to Hrdina'.

If the most powerful principle in live TV reporting is the "Attend first to the most urgent task at hand" principle, then there is of course no need to use the inverted word order because new referents are placed preverbally. The Agent First Principle can be subsumed under the Urgent First Principle, because identifying the player is usually the most urgent task of the commentator.

Discussion

It seems that in Finnish the determining principle in the choice of theme is Agent First rather than Given First. In this respect Finnish resembles Walbiri referred to by Tomlin (1983:417). In Walbiri the subject encodes agent, and maybe therefore the language lacks a passive construction. Also Finnish lacks a construction corresponding to the English passive. The type of passive found in Finnish is the impersonal passive (eg. Siewierska 1984:93-125; for the Finnish passive, see Shore 1986, Hakulinen & Karlsson 1979:254-256). The Finnish impersonal passive cannot express the agent with an oblique (Siewierska

1984:100). This means that for purely structural reasons there are few possibilities for the role of agent to occur postverbally.

The only construction available is the agent participle (see Karlsson 1983:176-178), exemplified by (58), which is called the periphrastic passive by Siewierska (1984:126-161). Siro (1977:36-37) considers it, "in a sense", an equivalent of the English agentive passive (for an opposing view, see Karttunen 1977:110-111). They incorporate the agent in the (passive?) VP (cf. Keenan 1981:19).

(58) Air America on Yhdysvaltain keskustiedotuspalvelun CIA:n rahoittama.
(*Helsingin Sanomat*, 3 Novemer 1990)
'Air America is financed by the CIA', more literally 'Air America is of CIA's financing/CIA-financed'

Sometimes the impossibility of expressing the agent in a passive construction is felt to be a lack in the language, and different prepositional phrases are placed after a passive verb, usually *jonkun toimesta* 'of somebody's doing'. This construction is exemplified by the subtitle translation given in (59i).

(59) A: Tell her I've been shot.
B: Very good sir. May I tell by whom?
(i) A: Minua on ammuttu 'I've been shot'
B: Saanko kysyä kenen toimesta? 'May I ask by whom' (more literally 'May I ask of whose making this is?')
(ii) A: Olen haavoittunut 'I'm wounded'
B: Erinomaista, sir. Saanko kertoa kuka ampui?
'Excellent, sir. May I tell who shot?'
(Reiner: *Dead Men Don't Wear Plaid*)

The construction is rejected in normative grammars, and it appears mainly in official language (Hakulinen & Karlsson 1979:256, note 1). Here translator (i) has used it to convey the pompous speech style of a butler. The more usual equivalent would be that chosen by translator (ii), the active.

It is only the semantic role of agent that cannot occur as an oblique after the verb. There are intransitive constructions that allow for other causative roles to appear postverbally. Consider example (60b), which has been translated into English as (60a). Here the semantic role of force (unvolitional causer; see Huddleston 1970:504-506) has been placed postverbally.

(60a) but the two in front had been *killed by* the same burst as the driver
(60b) mutta näistä oli kaksi edessäollutta *kuollut* samasta *suihkusta* kuin kuljettaja
(Väinö Linna: *The Unknown Soldier*)

A structurally more similar English equivalent would have been *died from*. Here the inverted word order *kaksi oli tappanut sama suihku* 'two had been killed by the same burst' would also have been more likely than with agent subjects: in clauses having new force subjects the ratio for the inverted word order is 1.3, in clauses having new agent subjects it is 0.2 (see Table 6).

This tendency is reflected also in examples (61) and (62), both from the same film translator:

(61) Perhaps he was killed by the Communists.
Jospa kommunistit tappoivat hänet 'Perhaps the Communists killed him'

(62) He was killed at a long distance, as much by an idea as anything else.
Hänet tappoi aate. 'He was killed by an idea'
(Mankiewicz: *The Quiet American)*

Example (62) could have been translated as *Hän kuoli aatteesta* 'He died for an idea' or *Hän kuoli aatteeseen* 'He died from an idea', but there is no such possibility for the agentive (61) (**Hän kuoli kommunisteilta/kommunisteihin/kommunisteista*, leaving out such clumsy constructions as *Hän kuoli kommunistien toimesta*, *Hänet tapettiin kommunistien toimesta* or the more poetic *Hän kuoli kommunistien käsissä* 'He died at the hands of the Communists', which no longer is causative). This leaves the inverted word order as the only device for rhematizing a constituent carrying the role of agent.

Kirkwood (1978:242) states that in German 'inversion forms' - which I take to include intransitives like (60b) above - will not have been developed or be used so extensively as in English, because the German word order is freer to express information structure and there is no need for other structures. On the basis of the present corpus, however, it seems that in Finnish the free word order is used mostly with those clause types that have an alternative way of expression by using intransitive verbs. On the other hand, the clause types that do not have this intransitive alternative invert less readily. In Finnish the restrictions on the use of word order for expressing information structure are not grammatical as

in English, but semantic. The Finnish word order is primarily determined by semantics, secondarily by information structure, and thirdly by grammar. There are two competing principles, the Given First Principle and the Urgent First Principle. The latter includes the Animated First Principle, which again includes the Agent First Principle. The text type determines which principle is the most powerful.

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